

Title (en)
PREPARATION OF CHLOROTRIFLUOROETHYLENE AND TRIFLUOROETHYLENE

Publication
EP 0053657 B1 19850424 (EN)

Application
EP 81107076 A 19810909

Priority
US 21455080 A 19801209

Abstract (en)
[origin: EP0053657A1] 1,1,2-trichloro-1,2,2-trifluoroethane is dechlorinated with hydrogen to produce chlorotrifluoroethylene and trifluoroethylene. Chlorotrifluoroethylene may be further dechlorinated to trifluoroethylene. Trifluoroethylene may then be hydrofluorinated with or without the use of catalyst to produce tetrafluoroethane and, particularly, asymmetrical tetrafluoroethane. Tetrafluoroethane produced by this process can be purified for refrigeration and other applications more easily than tetrafluoroethane produced by other processes since impurities which form azeotropes with tetrafluoroethane are minimized. A catalyst for the low temperature dechlorination of trichlorotrifluoroethane and of chlorotrifluoroethylene is a platinum-group metal such as palladium on an alkali magnesium fluoride support. Catalysts for the high temperature dechlorination of trichlorotrifluoroethane are alkali magnesium fluorides alone or coated with iron, copper or nickel. These catalyst can be reactivated with oxygen or air at elevated temperatures. The products chlorotrifluoroethylene and trifluoroethylene are useful as monomers while tetrafluoroethane is useful as a refrigerant.

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